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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,329	07/17/2003	Ratko Menjak	DE3-0158-D	4831

23413 7590 04/02/2004

CANTOR COLBURN, LLP
55 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

EXAMINER

LUBY, MATTHEW D

ART UNIT	PAPER NUMBER
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3611

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/622,329	Applicant(s) MENJAK ET AL.	
	Examiner Matt Luby	Art Unit 3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8, 11 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 16-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Preliminary Amendment

1. The preliminary amendment filed 7/17/03 has been received.

Claim Objections

2. Claims 8 and 11 are objected to because they depend from cancelled claim 4.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13-15, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa (U.S. Patent 6,012,347) in view of Bolourchi et al. (5,919,241) and Garshelis (6,145,387).
5. Hasegawa disclose a steering column for a vehicle comprising: an upper shaft (11) controlled by a hand wheel (col. 4, lines 20-21); a lower shaft (12) connected to the upper shaft by a torsion bar (14, Figure 11; col. 4, lines 23-25); a gear assembly in mechanical communication with the lower shaft and a motor in mechanical communication with the gear assembly (Figure 11; col. 10, lines 29-51); wherein the gear assembly comprises a worm (92) and a worm gear (90) housed in a housing (1)

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and a torque sensor (50) located at the upper shaft (11) between the connection of the upper shaft and the torsion bar and an upper end of the upper shaft (Figure 11).

Hasegawa does not disclose a controller/column electronics module in electronic communication with the motor; that the torque sensor is a non-compliant torque sensor connected to the controller by a plug or a position sensor in electronic communication with the controller. Bolourchi et al. disclose an electric power steering system including a controller/column electronics module (16 - e.g., a set of electronics used to control: columns 2-3) in operable communication with the motor (shown in Figure 1) and a position sensor (32) in electronic communication with the controller (shown in Figure 1) in order to detect vehicle velocity and gear angles and control the assist to the motor based on these detected values (col. 1, line 8 - col. 2, line 38). Garshelis discloses that it is well known to incorporate a non-compliant torque sensor as the torque-sensor in an electric power steering system (col. 1, lines 55-59 and Figure 1) connected to a controller by a plug (wires 24 are considered plugs in the broadest reasonable interpretation of plug as a device for communication electrical signals, col. 6, lines 56-61) in order to reduce multiple parts and to provide a torque sensor formed directly on the shaft rather than a separate ferromagnetic element (col. 2, lines 39-44). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the torque sensor of Hasegawa with a non-compliant torque sensor connected to a controller by a plug, as taught by Garshelis, in order to reduce multiple parts and to provide a torque sensor formed directly on the shaft rather than a separate ferromagnetic element. It would have also been obvious to one of ordinary skill in the

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art to provide a controller/column electronics module in electronic communication with the motor and a position sensor in electronic communication with the controller, as taught by Bolourchi et al., in order to detect vehicle velocity and gear angles and control the assist to the motor based on these detected values.

Allowable Subject Matter

6. Claims 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt Luby whose telephone number is (703) 305-0441. The examiner can normally be reached on Monday-Friday, 9:30 a.m. to 6:00 p.m..

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on (703) 308-0629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matt Luby
Examiner
Art Unit 3611

A handwritten signature in black ink, appearing to read "Matt Luby", written in a cursive style.

M.I.
March 29, 2004